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John E. Schier

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EXAMINER

PHAN, TRI H

ART UNIT

PAPER NUMBER

2661

3

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,073

Applicant(s)

SCHIER, JOHN E.

Examiner

Tri H. Phan

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 1 and 12 are objected to because of the following informalities:

In claim 1, lines 7-8, currently read as "...the multiplexer using the network multiplexer using the identified algorithm.". Examiner believes it should be -- the multiplexer using the network multiplexer identified algorithm --.

In claim 12, lines 8-9, "the network DSLAM" should be correct to --- the DSLAM ---.

Appropriate corrections are required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 24-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
3. Claims 24-27 are rejected under 35 U.S.C. 101 because the claims simply recite "A medium including encoded logic for providing secure communication of information comprising the logic operable to identify an algorithm ...; and process information" and are considered as non-statutory subject matter, i.e. computer program software, which is limited to the practical application under 35 U.S.C. 101. See for example *MPEP*, Section 2105-1 and

Art Unit: 2661

<http://www.uspto.gov/web/offices/com/hearings/software/analysis/computer.html> under Section

Non-Statutory Subject Matter of the claimed invention complies with 35 U.S.C. § 101.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1-2, 4, 10-11, 20-21 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by **Lemieux** (U.S.6,452,942).

- In regard to claims 1 and 20, **Lemieux** discloses in Figs. 2-5 and in the respective portions of the specification about the method and apparatus for providing local loop access using the access multiplexer 'DSLAM' ("*network multiplexer*") coupled to a plurality of network termination 'NT' nodes ("*communication module*") and Network Management System 'NMS', which provides functionalities for subscribers associated with corresponding NT nodes and stores the suitable service subscription profiles in the database system (For example see Figs. 2-3; Abstract); wherein, when receiving the request from the DSLAM for available resources associated with the network termination nodes ("*receiving input from the network multiplexer*"; For example see col. 7, lines 10-18; where the associated NT nodes are identified through the set up procedure in establishing the connection between the DSLAM and NT nodes in tree

Art Unit: 2661

allocation scenario or tree topology with the LDP Identifier and addresses received from the Address message and identified by associated subscribers' service profile which store in the database system based on the resource type, e.g. "*identified algorithm associated with the communication node*", as disclosed in Fig. 5; col. 6, lines 37-43; col. 7, line 40 through col. 8, line 48), and where the NMS provides the functionalities such as creation of service profiles, management of profile database, resource allocation control and resource supervision for each associated NT node ("*processing information communicated between the communication module and the multiplexer*"; For example see col. 5, lines 15-32) via the control block in the DSLAM module (For example see col. 5, lines 4-14).

- Regarding claims 2 and 21, **Lemieux** further discloses about the setup-to_N message, Session Initialization Negotiation message, Session Connection Established, which send from the DSLAM to the identified NT nodes ("*communicating the instruction to the communication module*"; For example see Fig. 5; col. 8, lines 15-48) based on the subscriber service profiles receiving in the call set-up process and storing in the database system (For example see col. 5, lines 15-32; col. 8, lines 4-48).

- In regard to claims 4, 10-11 and 23, **Lemieux** further discloses about the subscriber service database system incorporated with NMS ("*database*"; For example see col. 5, lines 15-22) for storing the mapping between peer LPD Session or Identifier and hop address ("*reference information associated with the network multiplexer*"), which use for providing the session and identifier for the set-up process ("*communication session*"; For example see col. 6, lines 5-43).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 5-9 and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lemieux** (U.S.6,452,942) in view of **Yim et al.** (U.S.6,580,727).

- In regard to claims 3 and 22, **Lemieux** discloses about the method and apparatus for providing local loop access using the access multiplexer 'DSLAM' ("*network multiplexer*") coupled to a plurality of network termination 'NT' nodes ("*communication module*") and Network Management System 'NMS', which provides functionalities for subscribers associated with corresponding NT nodes and stores the suitable service subscription profiles in the database system (For example see Figs. 2-3; Abstract); wherein, when receiving the request from the DSLAM for available resources associated with the network termination nodes ("*receiving input from the network multiplexer*"; For example see col. 7, lines 10-18; where the associated NT nodes are identified through the set up procedure in establishing the connection between the DSLAM and NT nodes in tree allocation scenario or tree topology with the LDP Identifier and addresses received from the Address message and identified by associated subscribers' service profile based on the resource type, e.g. "*identified algorithm associated with the communication*

Art Unit: 2661

node", as disclosed in Fig. 5; col. 6, lines 37-43; col. 7, line 40 through col. 8, line 48), and where the NMS provides the functionalities such as creation of service profiles, management of profile database, resource allocation control and resource supervision for each associated NT node ("*processing information communicated between the communication module and the multiplexer*"; For example see col. 5, lines 15-32) via the control block in the DSLAM module (For example see col. 5, lines 4-14). **Lemieux** also discloses about the setup-to_N message, Session Initialization Negotiation message, Session Connection Established, which send from the DSLAM to the identified NT nodes in the call set-up process ("*communicating the instruction to the communication module*"; For example see Fig. 5; col. 8, lines 15-48), and where the NT nodes response with the Session Initialization Negotiation Response message ("*receiving the instruction identified algorithm at the communication module*"; For example see Fig. 5).

Lemieux does disclose about the associated NT nodes are identified through the set up procedure in establishing the connection between the DSLAM and NT nodes in tree allocation scenario with the LDP Identifier and addresses received from the Address message and resource type stored in the database system, but fails to explicitly disclose about the method for "*providing secure communication with identified algorithm*". However, such implementation is known in the art.

For example, **Yim** discloses about the DSL access multiplexer ("*network multiplexer*"; wherein the DSP performs the arithmetic operations for the DSLAM, e.g. "*identified algorithm*", as disclosed in col. 3, line 59 through col. 7, line 15) having multiple analog front end 'AFE' for receiving communications with different protocols from clients, e.g. "*communication module*", (For example see col. 1, lines 35-40 col. 1, line 54 through col. 2, line 12; Fig. 2; col. 5, lines 5-

Art Unit: 2661

16) and using the element management system 'EMS' agent in the application program interface 'API' (For example see col. 8, lines 1-42; col. 9, lines 34-43) to communicate with the EMS service application in the host computer, e.g. server at the central office, (For example see col. 10, lines 3-22) for carrying out the control or request message, which indicates by the message ID and identifier of particular DSL channel for specific protocol specified according to the particular arrangement and architecture of DSLAM, e.g. *"providing secure communication with identified algorithm"* (For example see Fig. 5-6; col. 12, line 64 through col. 13, line 20).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Yim**, by implementing the 'EMS' agent and service application in the **Lemieux's** DSLAM and NMS, with the motivation being to providing particular functionalities for subscribers associated with corresponding NT nodes through the use of message ID and identifier of particular DSL channel for specific protocol specified according to the particular arrangement and architecture of DSLAM into the LDP identifier, e.g. *"providing secure communication with identified algorithm"*, as disclosed in **Yim**: col. 17, lines 51-58.

- Regarding claims 5-7, **Lemieux** further discloses about the method for determining the available resource for the associated network termination node, based on the resource type based on the set-up process (*"determining subscribers and associated communication modules for the network multiplexer"*; For example see col. 7, lines 1-18; col. 7, line 40 through col. 8, line 48) and wherein the subscriber service profiles are stored in the database system and managed by the NMS (For example see col. 5, lines 15-32). **Lemieux** does disclose about the 'Resource Request'

Art Unit: 2661

message in the set-up process for identifying network termination nodes (It is obvious that the 'new' network termination node, e.g. "*new communication module*", is identified through the Hello message and set-up process as disclosed in col. 8, lines 4-26), but fails to explicitly disclose about the "*updating the database based on the determined subscribers and communication modules*". However, such implementation is known in the art.

For example, **Yim** discloses about the element management system 'EMS' in the application program interface 'API' with management software applications such as network manager, host port manager, and channel manager for setting up and modifying the associated data-structure (For example see Fig. 4; col. 8, lines 18-42).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Yim**, by implementing the 'EMS' agent and service application in the **Lemieux**'s DSLAM and NMS, with the motivation being to update database system based on the subscriber's particular functionalities associated with corresponding NT nodes, according to the particular arrangement and architecture of DSLAM, e.g. "*updating the database based on the determined subscribers and communication modules*", as disclosed in **Yim**: col. 2, lines 55-61.

- In regard to claims 8-9, the combination of **Lemieux** and **Yim** further discloses about the set-up process for identifying network termination nodes (For example see **Lemieux**: col. 8, lines 4-26), modifying the associated data structure (For example see **Yim**: col. 8, lines 18-42), and the EMS agent in the DSLAM communicates with the EMS service application in the host computer (For example see **Yim**: col. 10, lines 3-22) to carry out the management functions

Art Unit: 2661

relative to overall setup and operation of DSLAM (“*synchronizing*”; For example see **Yim**: Figs. 5-6; col. 9, lines 11-20, 33-42).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Yim**, by implementing the ‘EMS’ agent and service application in the **Lemieux**’s DSLAM and NMS, with the motivation being to update database system based on the subscriber’s particular functionalities associated with corresponding NT nodes, according to the particular arrangement and architecture of DSLAM as disclosed in **Yim**: col. 2, lines 55-61.

- Regarding claim 12, **Lemieux** discloses about the method and apparatus for providing local loop access using the access multiplexer ‘DSLAM’ (“*network multiplexer*”) coupled to a plurality of network termination ‘NT’ nodes (“*communication module*”) and Network Management System ‘NMS’, which provides functionalities for subscribers associated with corresponding NT nodes and stores the suitable service subscription profiles in the database system (For example see Figs. 2-3; Abstract; where the system is connected via “*DSL modem*” as disclosed in Fig. 2; col. 1, lines 40-55; col. 4, lines 33-39); and wherein, when receiving the request from the DSLAM for available resources associated with the network termination nodes (“*operable to communicate with DSLAM*”; For example see col. 7, lines 10-18; where the associated NT nodes are identified through the set up procedure in establishing the connection between the DSLAM and NT nodes in tree allocation scenario or tree topology with the LDP Identifier and addresses received from the Address message and identified by associated subscribers’ service profile based on the resource type as disclosed in Fig. 5; col. 6, lines 37-43;

Art Unit: 2661

col. 7, line 40 through col. 8, line 48), and where the NMS provides the functionalities such as creation of service profiles, management of profile database, resource allocation control and resource supervision for each associated NT node (For example see col. 5, lines 15-32) via the control block in the DSLAM module (For example see col. 5, lines 4-14). **Lemieux** also discloses about the setup-to_N message, Session Initialization Negotiation message, Session Connection Established, which send from the DSLAM to the identified NT nodes in the call set-up process, and where the NT nodes response with the Session Initialization Negotiation Response message (For example see Fig. 5; col. 8, lines 15-48). **Lemieux** does disclose about the associated NT nodes are identified through the set up procedure in establishing the connection between the DSLAM and NT nodes in tree allocation scenario with the LDP Identifier and addresses received from the Address message and resource type stored in the database system, but fails to explicitly disclose about “*providing secure communication of information between the DSL modem and DSLAM*”. However, such implementation is known in the art.

For example, **Yim** discloses about the DSL access multiplexer (“*DSLAM*”; wherein the DSP performs the arithmetic operations for the DSLAM as disclosed in col. 3, line 59 through col. 7, line 15) having multiple analog front end ‘AFE’ for receiving communications with different protocols from clients (For example see col. 1, lines 35-40 col. 1, line 54 through col. 2, line 12; Fig. 2; col. 5, lines 5-16) and using the element management system ‘EMS’ agent in the application program interface ‘API’ (For example see col. 8, lines 1-42; col. 9, lines 34-43) to communicate with the EMS service application in the host computer, e.g. server at the central office, (For example see col. 10, lines 3-22) for carrying out the control or request message, which indicates by the message ID and identifier of particular DSL channel for specific protocol

Art Unit: 2661

specified according to the particular arrangement and architecture of DSLAM, e.g. “*providing secure communication of information between the DSL modem and DSLAM*” (For example see Fig. 5-6; col. 12, line 64 through col. 13, line 20); and where the “*secure communication*” is provided through the login process via the use of channel or network manager (“*security module*”; For example see col. 9, lines 20-32; col. 10, lines 63-67; col. 13, lines 25-53) in controlling the network management.

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Yim**, by implementing the ‘EMS’ agent and service application in the **Lemieux**’s DSLAM and NMS, with the motivation being to providing particular functionalities for subscribers associated with corresponding NT nodes through the use of message ID and identifier of particular DSL channel for specific protocol specified according to the particular arrangement and architecture of DSLAM into the LDP identifier, e.g. “*providing secure communication of information*”, as disclosed in **Yim**: col. 17, lines 51-58.

- In regard to claims 13-15, **Lemieux** further discloses where the associated NT nodes are identified through the set up procedure in establishing the connection between the DSLAM (“*DSLAM*”) and NT nodes in tree allocation scenario or tree topology with the LDP Identifier and addresses received from the Address message and identified by associated subscribers’ service profile based on the resource type as disclosed in Fig. 5; col. 6, lines 37-43; col. 7, line 40 through col. 8, line 48) and about the LDP message (“*instruction*”), which send from the DSLAM to the network management system (For example see col. 6, lines 9-57) based on the

Art Unit: 2661

subscriber service profiles receiving in the call set-up process and storing in the database system (For example see col. 5, lines 15-32). **Lemieux** does disclose about the associated NT nodes are identified through the set up procedure in establishing the connection between the DSLAM and NT nodes in tree allocation scenario with the LDP Identifier and addresses received from the Address message and resource type stored in the database system, but fails to explicitly disclose about the “*reference for identifying the algorithm*” for providing “*secure communication*” and using by the “*security module*”. However, such implementation is known in the art.

For example, **Yim** further discloses about the DSL access multiplexer (“*DSLAM*”; wherein the DSP performs the arithmetic operations (“*algorithm*”; For example see col. 3, line 59 through col. 7, line 15) and provides the event descriptor data structure (“*reference to identify the associated algorithm*”; For example see col. 7, lines 55-60) for the DSLAM, which has multiple analog front end ‘AFE’ for receiving communications with different protocols from clients (For example see col. 1, lines 35-40 col. 1, line 54 through col. 2, line 12; Fig. 2; col. 5, lines 5-16) and using the element management system ‘EMS’ agent in the application program interface ‘API’ (For example see col. 8, lines 1-42; col. 9, lines 34-43) to communicate with the EMS service application in the host computer, e.g. server at the central office, (For example see col. 10, lines 3-22) for carrying out the control or request message (“*operable to receive instruction*”; For example see col. 10’ lines 3-10), which indicates by the message ID and identifier of particular DSL channel for specific protocol specified according to the particular arrangement and architecture of DSLAM in controlling the network management, e.g. “*providing secure communication of information between the DSL modem and DSLAM*” (For example see Fig. 5-6; col. 12, line 64 through col. 13, line 20; wherein the “*secure*

Art Unit: 2661

communication” is provided through the login process via the use of channel or network manager . e.g. “*security module*” as disclosed in col. 9, lines 20-32; col. 10, lines 63-67; col. 13, lines 25-53).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Yim**, by implementing the ‘EMS’ agent and service application in the **Lemieux**’s DSLAM and NMS, with the motivation being to providing particular functionalities for subscribers associated with corresponding NT nodes through the use of message ID and identifier of particular DSL channel for specific protocol specified according to the particular arrangement and architecture of DSLAM into the LDP identifier, e.g. “*providing secure communication of information*”, as disclosed in **Yim**: col. 17, lines 51-58.

- Regarding claims 16-17, **Lemieux** does disclose about the session connections’ initialization between the DSLAM and the NT nodes (“*session information*”; For example see col. 8, lines 15-35; where the information is sent to the NMS for requesting the available resources associated with the NT nodes); but fails to explicitly disclose about the “*DSLAM database*”. However, such implementation is known in the art.

For example, **Yim** further discloses about the DSLAM data structure and the management information base ‘MIB’ (“*DSLAM database*”; For example see col. 8, lines 21-36; col. 14, lines 4-18; col. 16, lines 37-53) for providing the SNMP-EMS service application in creating or closing session (“*subscriber session information*”; For example see Figs. 5-6; col. 14, line 63 through col. 15, line 10) via the use of OpenSNMP session or CloseSNMP session.

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Yim**, by implementing the 'EMS' agent and service application in the **Lemieux's** DSLAM and NMS, with the motivation being to providing subscribers' information to the NMS for system management, as disclosed in **Yim**: col. 17, lines 51-58.

- In regard to claims 18-19, **Lemieux** further discloses about the NMS database ("*central office database*"; For example see col. 5, lines 4-32) for storing subscriber service profiles ("*DSL subscriber-information*"; For example see col. 7, lines 10-18) and the mapping between peer LPD Session or Identifier and hop address, which use for providing the session and identifier for the set-up process ("*DSLAM information*"; For example see col. 6, lines 5-43). **Lemieux** fails to explicitly disclose about the memory; however, it is obvious that the "memory" in the NMS is provided to store the subscriber service profiles for providing functionality and management process as disclosed in col. 5, lines 15-32.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Phillips et al. (U.S.6,181,715) and **Milbrandt** (U.S.6,631,120) are all cited to show devices and methods for improving the DSL communication architectures, which are considered pertinent to the claimed invention.

Art Unit: 2661

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (703) 305-7444. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Olms can be reached on (703) 305-4703.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (703) 305-3900.



Tri H. Phan
July 6, 2004



DOUGLAS W. OLMS
SUPERVISOR